

# The Mental Health of Black Caribbean Immigrants: Results from the National Survey of American Life

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There is a growing awareness about the importance of good mental health for the economic well-being of the nation.<sup>1</sup> Recent research shows that although US Black individuals do not have a higher prevalence of psychiatric disorders compared with White individuals, their mental health needs are largely unmet, they are underrepresented in mental health research, and they tend to have mental health problems that are more persistent.<sup>1,2</sup> There also is increasing recognition that the Black population in the United States is characterized by considerable heterogeneity that may be associated with variations in health.<sup>3–5</sup>

Immigrant history and status are important dimensions of variation within the Black population that are often ignored. Six percent of the US Black population is foreign-born, and 10% is of foreign ancestry.<sup>6</sup> Black Caribbean immigrants are the largest subgroup of Black immigrants, and they compose 4.4% of the US Black population and more than 25% of the Black population in New York City, NY; Boston, Mass; Miami, Fla; and Ft. Lauderdale, Fla.<sup>7</sup> Previous research has shown that Black Caribbean immigrants differ from African Americans on multiple measures of physical health status,<sup>8–14</sup> but relatively little attention has been given to variations in mental health.

Studies of Caribbean immigrants in the United Kingdom show that apart from an elevated risk for schizophrenia,<sup>15–17</sup> their pattern of mental health risk is inconsistent across various outcomes and samples.<sup>18–21</sup> Extant US reports on the mental health of Black Caribbeans do not provide a clear picture. Among US Blacks with access to health care, Caribbean-born women with low socioeconomic status (SES) had a lower risk for probable depression compared with US-born women.<sup>22</sup> A study of psychiatric outpatients in New York City found that African American patients were more likely to report a history of alcohol abuse and delusions, and

**Objectives.** We examined the prevalence of psychiatric disorders among Black Caribbean immigrant (“Caribbean Black”) and African American populations and the correlates of psychiatric disorders among the Caribbean Black population.

**Methods.** We conducted descriptive and age-adjusted analyses of the data from the National Survey of American Life—an in-person household mental health survey of noninstitutionalized US Blacks. We assessed psychiatric disorders as defined by *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria with the Composite International Diagnostic Interview.

**Results.** Compared with African American men, Caribbean Black men had higher risks for 12-month rates of psychiatric disorders. Caribbean Black women had lower odds for 12-month and lifetime psychiatric disorders compared with African American women. Risks varied by ethnicity, immigration history, and generation status within the Caribbean sample. First-generation Caribbean Blacks had lower rates of psychiatric disorders compared with second- or third-generation Caribbean Blacks, and, compared with first-generation Caribbean Blacks, third-generation Caribbean Blacks had markedly elevated rates of psychiatric disorders.

**Conclusions.** Mental health risks were associated with ethnic diversity within the US Black population. Increased exposure to minority status in the United States was associated with higher risks for psychiatric disorders among Black Caribbean immigrants, which possibly reflects increased societal stress and downward social mobility associated with being Black in America. (*Am J Public Health*. 2007;97:52–59. doi:10.2105/AJPH.2006.088211)

Caribbean-born patients were more likely to report symptoms of depression and aggression.<sup>23</sup> In contrast, a national study found that the small number of Blacks of Caribbean ancestry included in the sample had higher levels of psychological stress compared with US-born Blacks,<sup>24</sup> and another national study found that persons of Black Caribbean ancestry had a lower frequency of heavy drinking compared with US Blacks in general.<sup>25</sup>

Previous mental health research on Hispanic and Asian populations also suggests that characteristics of nativity and the immigrant experience are associated with psychiatric morbidity,<sup>1,26–30</sup> but the ethnographic dimensions of the mental health of Black immigrants are emerging. A study of Cuban and Haitian immigrants who arrived around the time of the Mariel boatlift crisis in Cuba during 1980 found that Cubans had higher levels of anxiety, depression, alcohol abuse, and psychotic symptoms compared with Haitians.<sup>31</sup> A study of low-SES Black immigrant women also

found a positive association between length of stay in the United States and probable depression.<sup>22</sup>

We used findings from the National Study of American Life (NSAL)—the largest study of mental health among Black individuals ever conducted in the United States<sup>32</sup>—to examine the levels and correlates of mental disorders among Black Caribbean immigrants. First, we compared the mental health risk profile of Black Caribbean immigrants in the United States with that of African Americans. Second, we assessed how the risk for mental disorders among Black Caribbean immigrants varies by ethnic origin, nativity status, duration of residence in the United States, age at migration, and generational status.

## METHODS

### Sample

The NSAL was part of the National Institute of Mental Health Collaborative Psychiatric

Epidemiology Surveys initiative that included 3 national representative surveys: the NSAL, the National Comorbidity Survey Replication, and the National Latino and Asian American Study.<sup>33</sup> The NSAL had a household probability sample of 3570 African Americans, 1621 Blacks of Caribbean descent (hereafter referred to as Caribbean Blacks), and 891 non-Hispanic Whites aged 18 years and older. African Americans were persons who self-identified as Black but did not report Caribbean ancestry. Caribbean Blacks were persons who self-identified as Black and answered affirmatively to any of these inclusion criteria: (1) they were of West Indian or Caribbean descent, (2) they were from a Caribbean-area country, or (3) they had parents or grandparents who were born in a Caribbean-area country. The Caribbean Black sample was selected from residential areas that were sampled to reflect the distribution of the African American population and from additional metropolitan areas where Caribbean Blacks composed more than 10% of the population. We focused primarily on the Caribbean Black sample and, to a much lesser extent, on the African American sample as 2 distinct Black ethnic groups residing in the United States. Face-to-face interviews were conducted in English using a computer-assisted personal interview and lasted an average of 2 hours and 20 minutes. Data were collected between February 2001 and June 2003; the overall response rate was 72.3% for Whites, 70.7% for African Americans, and 77.7% for Caribbean Blacks.

## Measures

The main outcomes in our study were *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*,<sup>34</sup> psychiatric disorders that were based on the World Mental Health Composite International Diagnostic Interview (WMH-CIDI). The WMH-CIDI was developed for the World Mental Health project and was used in the National Comorbidity Survey Replication and the National Latino and Asian American Study.<sup>33</sup> We focused on lifetime and 12-month rates of mood disorders (major depressive disorder, dysthymia), anxiety disorders (panic disorder, agoraphobia, social phobia, generalized anxiety disorder, post-traumatic stress disorder), substance disorders (alcohol abuse, alcohol

dependence, drug abuse, drug dependence), and any disorder (a composite of the *DSM-IV* disorder groups).

The Caribbean Black sample was divided into 3 ethnic groups: persons from Spanish-speaking Caribbean countries (Puerto Rico, Dominican Republic, Cuba, Panama, Costa Rica, Nicaragua, Honduras), Haitians, and persons from English-speaking Caribbean countries. Four respondents from other French-speaking countries and 7 respondents from the Dutch Caribbean were grouped with respondents from the English-speaking Caribbean.<sup>35</sup>

Four measures of immigration were used with the Caribbean Black sample: (1) nativity status (US-born or foreign-born), (2) age at time of US immigration, (3) years of US residency, and (4) generational status (first generation=immigrants; second generation=born in the United States to at least 1 Caribbean immigrant parent; and third generation or later=born in the United States to US-born parents and had at least 1 grandparent who was Caribbean-born or neither parents nor grandparents were born in the Caribbean but respondent self-reported being of West Indian or Caribbean descent).

## Analysis Strategy

We calculated design-adjusted prevalence rates for each demographic subgroup. The percentages represent weighted proportions, and the standard errors reflect the complex design-based calculation of variance. We used logistic regression analysis to examine the demographic risk factors associated with disorders. All logistic regression models were adjusted for age, and we conducted all analyses with SAS version 9.13 software, which uses the Taylor expansion technique for calculating the complex design-based estimates of variance.<sup>36</sup>

## RESULTS

Table 1 shows characteristics of the Black sample and disaggregated information for the Caribbean Blacks in the NSAL. It also shows the lifetime and 12-month rates of psychiatric disorders. The overall rates are roughly comparable for African Americans and Caribbean Blacks. Within the Caribbean

sample, it is noteworthy that men had higher rates compared with women, persons from the Spanish Caribbean had higher rates compared with those from other ethnic origins, those born in the United States had elevated rates compared with immigrants, and third-generation immigrants had markedly higher rates of mental illness compared with other Caribbean immigrants.

## Lifetime Psychiatric Disorders

Table 2 shows the age-adjusted odds ratios and confidence intervals for the correlates of lifetime psychiatric disorders. Caribbean men were more likely to have been diagnosed with mood disorders compared with African American men, but Caribbean women had lower rates of anxiety, substance, and any disorder compared with African American women. Similarly, Spanish Caribbean women had higher odds for mood, anxiety, and any disorder compared with women from the English-speaking Caribbean. Haitian men had lower odds for mood disorders compared with men from the English-speaking Caribbean.

Nativity differences were found among both men and women. Caribbean immigrant men had lower risks for anxiety, substance disorders, and any disorder compared with US-born men. Lower odds among immigrant women were statistically significant only for substance disorders. Years of US residency also were associated with lifetime risk for psychiatric disorders. Three patterns were evident. First, among both men and women, recent immigrants had lower odds for substance disorders compared with US-born respondents. Second, immigrant men and women who had been in the United States for 11 to 20 years had lower risks compared with US-born men and women. These differences were significant for all disorders among men and for substance disorders and any disorder among women. Third, among both men and women, immigrants who had been in the United States for 21 years or longer tended not to significantly differ from US-born men and women in the risk for disorders. The exception to this pattern was Caribbean immigrant men, who had lower rates of mood and any disorder compared with US-born men.

**TABLE 1—Sample Characteristics for African Americans and Caribbean Blacks, Unweighted and Weighted, by Lifetime and 12-Month Prevalence of Any Disorder: United States, National Survey of American Life (NSAL), 2001–2003**

	Unweighted Sample No.	Weighted Sample Mean (SE)	Lifetime Prevalence of Any Disorder, <sup>a</sup> % (SE)	12-Month Prevalence of Any Disorder, <sup>a</sup> % (SE)
<b>Ethnic groups within NSAL</b>				
African American	3570	93.02% (0.51%)	30.54 (1.07)	14.79 (0.78)
Caribbean Black	1621	6.98% (0.51%)	27.87 (1.76)	16.38 (2.24)
<b>Caribbean Blacks</b>				
<b>Gender</b>				
Male	643	50.87% (3.56%)	31.10 (4.08)	19.97 (4.58)
Female	978	49.13% (3.56%)	24.56 (2.20)	12.70 (1.88)
Age	1621	40.27 (0.84)		
<b>Ethnic Origins</b>				
Spanish-speaking Caribbean	180	14.08% (2.71%)	41.75 (7.53)	29.09 (9.33)
Haiti	298	12.64% (2.01%)	21.23 (4.82)	7.37 (1.42)
English-speaking Caribbean	1120	73.28% (3.37%)	25.78 (3.09)	15.19 (2.83)
<b>Nativity status</b>				
US-born	440	34.90% (4.12%)	43.11 (5.47)	25.60 (5.86)
Foreign-born	1160	65.11% (4.12%)	19.37 (2.66)	11.05 (2.14)
<b>Years in the United States</b>				
≤ 5	119	12.29% (2.32%)	19.84 (7.22)	14.17 (7.28)
6–10	164	12.85% (1.99%)	28.73 (6.19)	13.48 (2.91)
11–20	364	30.97% (2.22%)	13.84 (2.14)	9.02 (1.81)
≥ 21	512	43.89% (2.17%)	20.19 (2.73)	11.86 (2.80)
<b>Age at time of immigration, y</b>				
≤ 12	225	21.07% (1.81%)	33.07 (7.96)	21.50 (5.79)
13–17	160	14.80% (1.97%)	23.04 (6.16)	11.27 (2.91)
18–34	556	45.83% (2.53%)	12.67 (2.32)	7.70 (2.35)
≥ 35	189	18.30% (2.81%)	11.24 (3.53)	3.47 (1.15)
<b>Generational status</b>				
First	1160	65.11% (4.12%)	19.36 (2.66)	11.05 (2.14)
Second	316	20.82% (2.70%)	35.27 (7.15)	22.31 (7.87)
Third or later	124	14.07% (2.42%)	54.64 (7.44)	30.45 (7.58)

<sup>a</sup>Includes 11 psychiatric disorders as defined by *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*,<sup>34</sup> assessed by both the NSAL and the National Latino and Asian American Study.

## Twelve-Month Rates of Psychiatric Disorders

Table 3 shows the age-adjusted correlates of 12-month rates of psychiatric disorders. A more pronounced pattern of variation among Caribbean Blacks versus African Americans was evident for 12-month rates of disorders compared with lifetime disorders. Caribbean men had higher odds for mood, anxiety, and any disorder compared with African American men, but Caribbean women had lower risks for anxiety, substance, and any disorder compared with African American females. Ethnicity within the Caribbean sample was associated with disorder risk among men only. Haitian and Spanish Caribbean men had lower odds for mood disorders compared with men from the English-speaking Caribbean, and Haitian men had a lower rate of any disorder.

Similar to the pattern we observed for lifetime disorders, foreign-born Caribbean men and women had lower odds for 12-month substance disorder compared with US-born men and women. Additionally, Caribbean immigrant men had lower rates of mood and any disorder compared with US-born men. Years of US residency were associated with increased risks for substance and any 12-month psychiatric disorder among men. Caribbean immigrant men who lived in the United States for 11 to 20 years had lower odds for all disorders compared with US-born men. Caribbean immigrant men with 6 to 10 years of US residency had lower odds for substance and any disorder compared with US-born men. Immigrant men with 21 or more years of US residency had a lower risk for mood disorders compared with US-born men.

Caribbean women who immigrated to the United States before age 13 had higher odds for 12-month mood and any disorder compared with US-born women, but immigrant males aged 12 and younger at immigration had a lower risk for substance disorder compared with US-born males. Similar to the pattern we observed for the lifetime risk for mood and anxiety disorders, Caribbean men who immigrated as adolescents<sup>13–17</sup> had a lower risk for all of the 12-month disorders compared with US-born men. In contrast, Caribbean women who immigrated as

Age at time of immigration was associated with increased lifetime risks for psychiatric disorders. Men who immigrated as adolescents (aged 13–17 years) had lower rates of mood and anxiety disorders and women had lower rates of substance disorders compared with US-born men and women. Immigration as a young adult (aged 18–34 years) was associated with a significantly reduced risk for all disorders among women and for all but mood disorders among men. Among those who were aged 35 years or older at the time of immigration, men had lower rates of any

disorder and women had lower rates of anxiety and any disorder.

Generational status also emerged as a risk factor. After we controlled for age and ethnic origin, third-generation Caribbean men and women had markedly elevated rates of all disorders, with the exception of anxiety disorders among men, compared with first-generation immigrants. Additionally, second-generation men and women had higher rates of substance disorder and men only had higher rates of any disorder compared with foreign-born men and women.

**TABLE 2—Associations Between Immigration and Lifetime Disorders (Odds Ratios [ORs] and 95% Confidence Intervals [CIs]), by Gender: United States, National Survey of American Life (NSAL), 2001–2003**

	Any Mood		Any Anxiety		Any Substance		Any Disorder	
	Male, OR (95% CI)	Female, OR (95% CI)	Male, OR (95% CI)	Female, OR (95% CI)	Male, OR (95% CI)	Female, OR (95% CI)	Male, OR (95% CI)	Female, OR (95% CI)
<b>Ethnicity</b>								
Caribbean Black	1.76 (1.00, 3.11)	0.99 (0.61, 1.61)	1.48 (0.93, 2.35)	0.66 (0.51, 0.86)**	0.90 (0.54, 1.52)	0.42 (0.26, 0.69)**	1.09 (0.72, 1.63)	0.69 (0.54, 0.89)**
African American <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Caribbean ethnic origins</b>								
Spanish-speaking	0.16 (0.02, 1.01)	3.61 (2.21, 5.87)**	3.37 (0.82, 13.90)	2.18 (1.08, 4.39)*	1.54 (0.12, 20.52)	0.40 (0.11, 1.44)	1.48 (0.34, 6.34)	2.52 (1.72, 3.69)**
Caribbean								
Haiti	0.23 (0.06, 0.82)*	1.59 (0.48, 5.22)	0.56 (0.15, 2.08)	0.79 (0.38, 1.63)	0.43 (0.10, 1.96)	... <sup>b</sup> (0.11, 1.09)	0.35 (0.44, 2.90)	1.13 (0.44, 2.90)
English-speaking <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Caribbean								
<b>Nativity</b>								
Foreign-born	0.33 (0.08, 1.43)	0.65 (0.29, 1.43)	0.32 (0.12, 0.83)*	0.63 (0.34, 1.19)	0.15 (0.05, 0.50)**	0.18 (0.08, 0.37)**	0.23 (0.09, 0.58)**	0.55 (0.30, 1.02)
US-born <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Years in the United States</b>								
US-born <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
≤5	0.77 (0.02, 4.11)	0.40 (0.12, 1.38)	0.47 (0.08, 2.64)	0.34 (0.10, 1.16)	0.02 (0.00, 0.09)**	... <sup>b</sup> (0.06, 1.01)	0.25 (0.12, 1.03)	0.36 (0.12, 1.03)
6–10	0.57 (0.06, 1.60)	0.31 (0.10, 0.97)*	0.51 (0.17, 1.56)	0.55 (0.20, 1.51)	0.55 (0.14, 2.22)	0.07 (0.01, 0.65)*	0.53 (0.18, 1.58)	0.45 (0.18, 1.11)
11–20	0.16 (0.21, 0.48)**	0.42 (0.14, 1.28)	0.20 (0.09, 0.47)**	0.55 (0.27, 1.12)	0.04 (0.01, 0.14)**	0.04 (0.00, 0.33)**	0.14 (0.07, 0.26)**	0.38 (0.18, 0.82)*
≥21	0.07 (0.02, 0.31)**	1.58 (0.61, 4.10)	0.37 (0.10, 1.44)	0.99 (0.45, 2.18)	0.21 (0.04, 1.30)	0.47 (0.19, 1.17)	0.19 (0.07, 0.53)**	0.99 (0.51, 1.94)
<b>Age at time of immigration, y</b>								
US-born <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
≤12	0.38 (0.11, 1.35)	1.39 (0.44, 4.45)	0.85 (0.23, 3.19)	1.04 (0.37, 2.94)	0.51 (0.08, 3.31)	0.58 (0.18, 1.81)	0.54 (0.19, 1.55)	1.18 (0.46, 3.06)
13–17	0.14 (0.03, 0.67)*	0.46 (0.16, 1.36)	0.22 (0.09, 0.56)**	0.76 (0.36, 1.61)	0.29 (0.04, 2.36)	0.15 (0.03, 0.83)*	0.27 (0.07, 1.10)	0.57 (0.24, 1.32)
18–34	0.31 (0.07, 1.51)	0.24 (0.01, 0.57)**	0.27 (0.10, 0.73)**	0.37 (0.19, 0.72)**	0.02 (0.01, 0.08)**	0.02 (0.00, 0.14)**	0.14 (0.07, 0.30)**	0.29 (0.17, 0.50)**
≥35	0.17 (0.02, 1.27)	0.44 (0.12, 1.56)	0.26 (0.07, 1.03)	0.29 (0.09, 0.94)*	0.14 (0.02, 1.15)	... <sup>b</sup> (0.04, 0.43)**	0.13 (0.13, 0.65)**	0.29 (0.13, 0.65)**
<b>Generational status<sup>c</sup></b>								
First <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Second	2.10 (0.30, 14.72)	0.95 (0.40, 2.27)	2.02 (0.54, 7.46)	0.89 (0.43, 1.85)	8.70 (2.17, 34.89)**	4.60 (2.34, 9.05)**	3.06 (1.13, 8.26)*	0.93 (0.47, 1.82)
Third or later	5.06 (1.31, 19.55)*	4.05 (1.74, 9.44)**	3.02 (0.53, 17.19)	3.02 (1.08, 8.44)*	6.49 (1.90, 22.20)**	13.47 (3.79, 47.93)**	6.83 (1.52, 30.65)*	4.99 (2.55, 9.75)**

<sup>a</sup>Reference category.

<sup>b</sup>Unable to estimate because there were very few cases.

<sup>c</sup>With control for age and ethnic origin.

\* $P < .05$ ; \*\* $P > .01$ .

adolescents did not differ from US-born women on the risk for mental illness. There was a pronounced pattern of lower risk for lifetime disorders among persons who immigrated when they were aged 18 to 34 years. These young adult immigrant men and women also had lower risks for any 12-month psychiatric disorder compared with US-born men and women. Additionally, only Caribbean immigrant men who immigrated at age 35 years or older had lower odds for 12-month mood, anxiety, and any disorder compared with US-born men. It also is worth noting that the prevalence of substance

disorders among men and women who immigrated as adults was so low that it was not possible to estimate the association.

Age- and ethnicity-adjusted generational status also was associated with 12-month rates of psychiatric disorders. Third-generation men and women and second-generation men only had higher odds for substance disorder compared with first-generation immigrants. Third-generation men also had a higher risk for any 12-month disorder compared with foreign-born men. In contrast, second-generation women had lower risks for any disorder.

## DISCUSSION

In a nationally representative sample of African Americans and Caribbean Blacks, we found that Black men of Caribbean ancestry in the United States had higher risks for 12-month rates of mood and anxiety disorders compared with African American men. Conversely, Caribbean Black women had lower 12-month and lifetime risks for anxiety and substance disorders compared with African American women. These findings highlight the need for research that enhances our understanding of the complex pattern of

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	Any Mood		Any Anxiety		Any Substance		Any Disorder	
	Male, OR (95% CI)	Female, OR (95% CI)	Male, OR (95% CI)	Female, OR (95% CI)	Male, OR (95% CI)	Female, OR (95% CI)	Male, OR (95% CI)	Female, OR (95% CI)
<b>Ethnicity</b>								
All Caribbean Blacks (n=1583)	2.21 (1.09, 4.47)*	0.67 (0.39, 1.14)	2.25 (1.15, 4.40)*	0.64 (0.44, 0.91)*	1.27 (0.28, 5.75)	0.34 (0.19, 0.58)**	1.88 (1.04, 3.39)*	0.67 (0.47, 0.95)*
African American <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Caribbean ethnic origins</b>								
Spanish-speaking Caribbean	0.03 (0.00, 0.35)**	2.52 (0.40, 16.11)	3.42 (0.72, 16.14)	1.24 (0.43, 3.62)	0.38 (0.01, 16.06)	0.53 (0.11, 2.65)	2.07 (0.38, 11.12)	1.92 (0.68, 5.4)
Haiti	0.13 (0.02, 0.69)*	0.71 (0.20, 2.51)	0.17 (0.03, 1.11)	0.67 (0.35, 1.31)	0.11 (0.01, 1.20)	... <sup>b</sup>	0.19 (0.05, 0.73)*	0.6 (0.30, 1.21)
English-speaking <sup>a</sup> Caribbean	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Nativity status</b>								
Foreign-born	0.20 (0.04, 0.99)*	1.95 (0.72, 5.28)	0.35 (0.09, 1.28)	1.04 (0.48, 2.28)	0.02 (0.00, 0.12)**	0.34 (0.12, 0.97)*	0.19 (0.06, 0.61)**	1.24 (0.67, 2.28)
US-born <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Years in the United States</b>								
US-born <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
≤5	0.79 (0.10, 6.40)	1.91 (0.57, 6.40)	0.63 (0.11, 3.72)	0.48 (0.12, 1.95)	... <sup>b</sup>	... <sup>b</sup>	0.3 (0.05, 1.82)	0.88 (0.27, 2.87)
6–10	0.42 (0.10, 1.75)	1.23 (0.40, 3.76)	0.31 (0.09, 1.04)	0.83 (0.36, 1.93)	0.03 (0.00, 0.36)**	0.28 (0.03, 2.36)	0.29 (0.11, 0.77)*	0.84 (0.41, 1.73)
11–20	0.09 (0.02, 0.37)**	1.35 (0.50, 3.65)	0.14 (0.05, 0.39)**	1.37 (0.59, 3.19)	0.05 (0.01, 0.39)**	0.22 (0.03, 1.93)	0.09 (0.04, 0.19)**	1.18 (0.57, 2.45)
≥21	0.05 (0.01, 0.38)**	3.84 (0.85, 17.35)	0.57 (0.09, 3.48)	1.16 (0.34, 4.00)	... <sup>b</sup>	1.80 (0.27, 12.00)	0.24 (0.04, 1.32)	1.97 (0.78, 4.95)
<b>Age at time of immigration, y</b>								
US-born <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
≤12	0.30 (0.05, 1.62)	4.34 (1.00, 18.78)*	0.93 (0.17, 5.13)	1.97 (0.76, 5.11)	0.02 (0.00, 0.15)**	0.46 (0.15, 1.46)	0.55 (0.12, 2.57)	2.95 (1.57, 5.56)**
13–17	0.09 (0.02, 0.48)**	1.97 (0.63, 0.13)	0.13 (0.04, 0.47)**	1.43 (0.67, 3.08)	0.09 (0.10, .70)*	0.65 (0.13, 3.38)	0.10 (0.03, 0.31)**	1.35 (0.62, 2.95)
18–34	0.31 (0.04, 2.37)	0.66 (0.28, 1.55)	0.35 (0.11, 1.15)	0.48 (0.21, 1.11)	... <sup>b</sup>	... <sup>b</sup>	0.18 (0.06, 0.54)**	0.49 (0.24, 0.99)*
≥35	0.04 (0.00, 0.83)*	1.22 (0.28, 5.36)	0.13 (0.02, 0.95)*	0.22 (0.04, 1.12)	... <sup>b</sup>	... <sup>b</sup>	0.06 (0.01, 0.40)**	0.45 (0.16, 1.26)
<b>Generational status<sup>c</sup></b>								
First <sup>a</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Second	3.84 (0.48, 31.11)	0.62 (0.22, 1.76)	1.28 (0.31, 5.25)	0.70 (0.43, 1.14)	64.22 (11.41, 361.60)*	2.13 (0.58, 7.73)	3.54 (1.03, 12.18)*	0.57 (0.36, 0.91)*
Third or later	6.30 (0.90, 44.33)	0.39 (0.09, 1.64)	3.26 (0.26, 41.05)	2.11 (0.70, 6.32)	74.12 (4.27, >999.99)*	11.38 (1.45, 89.36)*	6.55 (1.08, 39.63)*	1.88 (0.95, 3.70)

<sup>a</sup>Reference category.

<sup>b</sup>Unable to estimate because there were very few cases.

<sup>c</sup>With control for age and ethnic origin.

\* $P < .05$ ; \*\* $P > .01$

associations among ethnicity, immigrant status, gender, and health. Three areas of investigation appear to be promising. First, recent research shows that although Caribbean Blacks have higher incomes compared with African Americans, there was a sizeable decline in median income among Caribbean Blacks between 1990 and 2000.<sup>7</sup> It is unclear if this decline was more marked among Caribbean men than among Caribbean women and whether it had consequences for mental health. Second, it has been suggested that Black Caribbean immigrants—because they are both black and immigrant—face

more pressures and inequalities compared with native Blacks or White immigrants.<sup>37</sup> Black Caribbean immigrants were socialized in societies where they were a demographic majority; therefore, the stress of racism may be particularly virulent and pathogenic. Furthermore, although Black Caribbean women are not immune to stressors associated with racism and migration, these new stressors may be counterbalanced among women by greater work opportunities, financial and personal independence, and increased power in the domestic sphere.<sup>38–41</sup> These new freedoms for Black Caribbean women may be

stressful for Black Caribbean men. Third, we do not know the extent to which African American men are more likely than Black Caribbean men to be overrepresented in institutional settings such that a community survey provides better coverage of the overall Caribbean male population compared with the African American male population.

Gender differences also were evident in the association between risk for disorders and ethnic status within the Black Caribbean sample. Black men from the Spanish Caribbean and Haitian men had lower rates of mood disorders compared with men from the



English-speaking Caribbean, and Black Hispanic women had higher rates of mood and anxiety disorders compared with women from the English-speaking Caribbean. Thus, efforts to understand the gendered nature of the Black immigrant experience in the United States should take into account the context of ethnic variation within the Black Caribbean population. Women from the English-speaking Caribbean are more prepared than Hispanic women to take advantage of job opportunities in the United States because they speak English and are more likely to have worked outside of the home in their country of origin.<sup>42</sup> Women from the Spanish Caribbean also may feel greater pressure to stop working because codes of middle-class respectability in their culture are more closely tied to women remaining in the domestic sphere.<sup>43,44</sup> Additionally, other recent research has suggested that Black Hispanic individuals may have poorer health compared with individuals of lighter complexion, because they face discrimination on the basis of their shade of skin color from both within and outside their ethnic community.<sup>45</sup> Research on the social and psychological consequences of having a darker skin tone among African Americans has shown that the negative effects are more consequential among women than among men.<sup>46</sup> Future research should explore whether a similar pattern exists among Hispanics.

### Acculturation and Mental Health

Our findings support the general notion that acculturation (i.e., increasing years of US residency) is associated with increased risks for mental illnesses. First, consistent with previous research, we found that nativity status matters: Black Caribbean immigrants had lower rates of psychiatric disorders compared with US-born Caribbean Blacks.<sup>47</sup> Among women, this pattern was evident only for substance disorders, and among men it existed for a broader range of mental disorders. Second, with increasing years of US residency, disorder rates tended to converge over time to that of the native born (more clearly among women than among men), with Black Caribbean immigrant women who had lived in the United States more than 20 years having disorder rates comparable to those of US-born Caribbean women. Third, increasing generational status was strongly

associated with risk for disorder: third-generation Black Caribbean immigrant men and women reported the highest prevalence of disorder among all subgroups in our study.

Among Black Caribbean immigrant men, there was a pronounced pattern of lower lifetime and 12-month rates of all the psychiatric disorders assessed among immigrants who had lived in the United States for 11 to 20 years. It is not clear whether this reflects a period effect. This was a group who arrived in the United States during the 1980s, when there was a large migration stream to the United States. Many of these individuals came from middle-class backgrounds or had high educational aspirations.<sup>35</sup> The timing of immigration also is associated with mental health. Immigration as a young adult (aged 18–34 years) appeared to be associated with the strongest pattern of a protective effect against disorders. Black Caribbean immigrants face a double process of being incorporated into both America and Black America.<sup>35</sup> It may be that those who experienced their primary socialization in predominantly Black contexts outside of the United States may be protected from some of the downward social mobility associated with being Black in America.

### Limitations

There are several limitations to our analyses. First, the data are cross-sectional and provide no basis for the temporal ordering of the association between our sociodemographic measures and mental health status. Second, our assessment of psychiatric status relied on the memory of the respondents, and there are well-documented limitations associated with impaired memory recall that could affect the validity of our assessment of psychiatric status.<sup>48</sup> Moreover, we do not know if these processes differed across the cultural or language subgroups of our sample. Third, our analyses assume that the WMH-CIDI instrument used to assess psychiatric status was equally applicable across all subgroups in our sample. The WMH-CIDI has been used in the World Health Organization's (WHO) WMH study, which has collected data on psychiatric disorders from more than 20 countries that represent each of the WHO regions.<sup>49</sup> At the same time, culture can affect both the clinical presentation of specific psychiatric disorders

and the ability to recall or report particular symptoms.<sup>50</sup> Accordingly, future research should explore the extent to which the questions used for assessing the presence of specific psychiatric symptoms are equivalent across the various cultural subgroups that make up the Caribbean population.

A fourth limitation is the small sample size and the resultant reduced ability to detect significant differences among analyses of several of the migration status and ethnic subgroups. A related limitation is that several dimensions of Black Caribbean immigrant diversity were not captured in our analyses. To be included in the Caribbean sample, the respondent had to self-identify as Black. Some research suggests that at least some Black Caribbean immigrants emphasize a national identity instead of a racial one.<sup>41</sup> If such persons did not identify as Black at the time of sample selection, they were excluded. Also excluded from the sample were Black Caribbean immigrants who could not speak English. Additionally, some Caribbean societies are diverse racially; therefore, the restriction of our sample to Blacks excluded many Caribbean immigrants in the United States. Immigrants, irrespective of race, from other Hispanic countries were represented in the National Latino and Asian American Study,<sup>33</sup> but we currently have little knowledge about the mental health status of non-Black immigrants from the English-speaking Caribbean. In the Caribbean countries of Trinidad and Tobago and Guyana, for example, the population of East Indian ancestry exceeds that of African ancestry.<sup>35</sup> Future research needs to address the experience of East Indian Caribbean immigrants in the United States and assess the extent to which their health varies from that of Black Caribbean immigrants.

### Conclusions

In spite of these limitations, our study provides a previously unavailable glimpse of the heterogeneity of the Black population. It highlights that the US Black population is diverse and that this variation is associated with mental health status. We have shown that the mental health risk profile of Caribbean Blacks differs from that of other African Americans. Moreover, the Black Caribbean immigrant category itself masks considerable heterogeneity in mental health. Factors such as

native language, foreign birth, age at immigration, years in the United States, and generational status are all associated with mental health risks. There is growing awareness that the cultural context of the client is associated with therapeutic options, risk factors, and resources that can affect treatment outcomes. It is important that treatment be tailored to the needs of the individual and his larger social context.<sup>51</sup> Accordingly, the delivery of mental health services should integrate cultural and contextual factors associated with immigration-related variations in mental health. Moreover, future research needs to identify the underlying mechanisms that link particular aspects of the immigrant experience with health status. ■

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### Contributors

D.R. Williams, H. Neighbors, and J.S. Jackson originated the study. R. Haile conducted the literature review. R. Baser conducted the data analyses. D.R. Williams led the writing, and all authors assisted with writing and interpreting the findings.

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### Human Participant Protection

Both this study and the NSAL were approved by the institutional review board at the University of Michigan.

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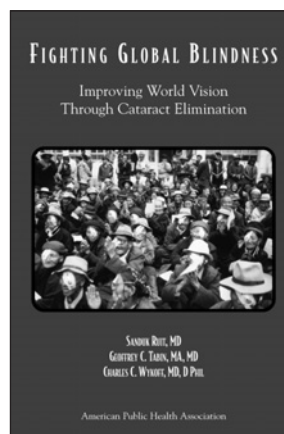
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